

Biomass Harvesting BMP Stakeholders Meeting

October 31, 2007

Notes

Summary – A stakeholder group of 30 individuals representing a broad spectrum of organizations, companies and agencies met in Jefferson City to identify major issues that should be addressed by Best Management Practices (BMPs) applicable to harvesting biomass from Missouri forests. The topic is considered highly relevant given the interest expressed in the construction of cellulosic ethanol plants in the state because of the abundance of low quality hardwoods. This meeting was considered a proactive effort to encourage participation so we might respond in a more responsible manner that will ensure sustainable use of our natural resources.

Two broad categories of issues were discussed – scientific/technical implications of BMPs and the impacts of implementation on practitioners and society. These issues will provide the basis for BMPs that will be developed and described by the Technical Group that will meet later.

The final outcome of the process will be a guideline of BMPs for woody biomass harvesting.

Scientific/technical implications:

- Wildlife habitat – relies heavily on understory vegetation; leave some large diameter, standing and dead trees.
- Ecosystem/landscape differences - develop BMPs related to different landscapes - soils, topography, water regimes and ecosystems.
- Carbon sequestration – consider the potential for carbon sequestration.
- Rare and Endangered species – must be considered.
- Monoculture – need to be sensitive to the suite of issues related to the establishment of monocultures.
- Existing forests and plant communities – need to consider the impacts on native habitat, healthy forests and plant communities; community restoration should be considered.
- Road construction and maintenance – these contribute substantially to sediment production.
- Riparian zones and other sensitive areas – perhaps riparian zones, important biological communities and other sensitive areas should be handled separately.
- Special opportunities – significant biomass can be created by special opportunities, ie., last year's ice storm – what are the appropriate means to deal with these situations?
- Nutrient cycling – need to consider nutrient cycling impacts of recommended practices.

Implications for practitioners and society:

- Enforcement/monitoring on private lands.
- Cost and practicality of implementation.
- Understandable BMP guidelines.
- Address afforestation v. reforestation for biomass production.
- Monitor the regional demand for biomass to prevent overharvesting.
- Strive for sustainable use of our forest resources.
- Review existing laws and regulations to determine how much work already has been done.
- Incentives for adoption.

- Need to provide information and education that is readily available and understandable by the private landowner and harvesting operators.
- Aesthetics and tourism – need to consider implications of visual management for tourism from harvests; consider social concerns.

Opening comments - John Tuttle, Forestry Field Programs Supervisor with Missouri Department of Conservation, opened the meeting and welcomed everyone. He noted that the goal of this stakeholders group is to *identify issues which might arise from harvesting Missouri forest products for biomass*. We are aware that the use of ethanol for fuels is a current topic. As woody biomass harvesting occurs, we want to provide guidelines to protect the natural resources of Missouri.

In order to get biomass to a processing facility, it has to be harvested. We would like to provide guidance to encourage low residual damage. He added that BMPs are not just about water quality.

John then introduced Francisco Aguilar, forest economist at MU. Francisco started in August, and he graciously volunteered to assist this group. John also introduced Bill Kurtz, who has retired after 31 years as professor of forest economics at MU. Bill will be our facilitator. Donna Baldwin, Missouri Department of Conservation, was also introduced and will be the meeting recorder.

Introductions - the following were in attendance – John Tuttle, Bill Kurtz, Francisco Aguilar, Jason Hubbard, Doug Wallace, Jeff Lamb, Kurt Homeyer, Wally Brumfield, David Haenke, Sam Orr, Ken Midkiff, Bill McGuire, Doug Enyart, Gene Garrett, Richard Stricklin, John Fleming, Brian Brookshire, Peter Becker, David Massengale, Mike Hoffmann, Lynn Barnickol, Mike Smith, Hank Dorst, Katie Dorst, Randy Jensen, Terry Thompson, Dennis Meinert, John Warden, Randy Miles, Dave Murphy, and Donna Baldwin.

John Tuttle then introduced Lisa Allen, State Forester, Missouri Department of Conservation. Lisa thanked everyone for attending the meeting. She noted this is a very important effort, to her as State Forester and also for the citizens of Missouri. By getting ahead of the game and developing BMPs for biomass, we position ourselves to respond more responsibly. She added that this is a very exciting time for forestry. There are several emerging issues, which could result in positive or negative outcomes. Her philosophy is one of participation - we call on you to join us at the table and pull together our collective knowledge. She again thanked everyone for their participation.

Purpose of the Meeting – John Tuttle then made a short presentation to discuss the purpose of the meeting:

What is woody biomass?

- “Woody biomass is small diameter trees, branches, and the like (brush, tree tops) generated as a result of timber –related activities in the forests...” Source: United States Government Accountability Office

What is woody biomass harvesting?

- Biomass harvesting includes the process of removing woody biomass from forested sites. It might include the utilization of tops, limbs, small diameter trees, down and dead woody material, and brush. Source: *Biomass Harvesting on Forest Management Sites in Minnesota*

Background

- Forest Restoration Working Partnership Grant (following are partners in the grant)
 - Top of the Ozarks RC&D
 - Big Spring RC&D
 - Bootheel RC&D
 - Eastern Ozarks Forestry Council
 - Missouri Department of Conservation

Grant – Two Objectives:

- Identify best management practices for woody biomass harvesting. Goal is to ensure that biomass is utilized without environmental degradation.
- Two-fold feasibility study
 - Identify and evaluate incentives to promote sustainable biomass harvesting.
 - Identify and evaluate options for monitoring biomass harvesting to ensure sustainability and acceptable environmental impact.

Why write BMPs for woody biomass harvesting?

- Need to be proactive, not reactive
- If harvesting occurs it needs to be done in a way that protects the resources
- Possible cellulosic ethanol plants (three rumored to be looking at Missouri)

Process for developing BMPs for Woody Biomass Harvesting

- Stakeholders meeting
- Technical Group
- Post documents on MDC website
- Public comment period

Technical Committee

- Fifteen members with backgrounds in silviculture, wildlife biology, soils, forest ecology, forest hydrology, and forest management
- Meetings
 - First one will be held on November 26th
 - Minutes will be posted on the website

Web Page

- On MDC's public web page at http://mdc.mo.gov/forest/management/woody_bmp.htm
- Rough draft will be put on website
- John Tuttle's contact information is on the website
- Meeting Minutes will be posted
- Links

Comment Period

- Rough draft will be posted on website
- Contact information is on website

Stakeholders

- Why are you here?
 - Resource sustainability
 - Wanted representative from a cross section of diverse groups
 - Give input on the process
 - Be proactive, not reactive

John then asked if anyone had any questions. Ken Midkiff asked if these BMPs will be for private land or public land? John noted that they are mostly for the private sector but should also apply to public land.

Process Description

Francisco Aguilar - noted this will be a two-step process:

1. Identify issues that will arise because of new biomass harvesting practices and the impact they will have on the state resources (today).
2. Develop BMP guidelines by a Technical Committee (future meeting).

He noted that today we will develop a list of issues to give to a 15-member technical committee. Our intention is to gather/getting input from a broad group of people.

Bill Kurtz – pleased to have this opportunity to work with you.

- Proactive sense, we have very wide representation, key to success.
- Have worked in private landowner forestry for 30+ years, keen interest in why landowners make decisions. 90% of forest is private land.

The participatory process for the identification of issues and preparation of BMP guidelines has a comment period built in. Participation is not limited to folks in this room, but also general public.

Today, our task is to identify and describe issues as a group. Will break for lunch at that time. Then break out into small groups. Come back and take input to come up with final wording on issues.

Need frank and honest opinions. No right or wrong answers. Be courteous and civil.

Issue Identification – Bill then asked each individual to identify an issue related to biomass harvesting BMPs and how this issue will impact operations:

David Massengale – The enforcement/monitoring of BMP implementation on private land.

Peter Becker – MN biomass guidelines that cover average soil, sites not directly suggested either no harvest or restricted. Key element will be to identify different soil types in Missouri with special restrictions for BMPs

Brian Brookshire– Cost and practicality of implementation. Need to have something an operator can do. There are no operators at this table.

John Fleming – Harvesting what’s out there. Address afforestation vs reforestation for biomass. Address plantations for biomass production.

Richard Stricklin – The product we come out with must be one that the logger or landowner can read and understand, implement. Make sure people who are going to do it understand it.

Hank Dorst – Creating a demand in certain regions leads to potential to over harvesting.

Katie Dorst – Result of economics of this industry requires heavy logging on many sites. Impact of the scale of operations.

Gene Garrett – Forests used for many purposes. We have economic, ecologic, social issues. What ever we do must be sustainable over the long haul. Must take serious look at use of our forests and make sure all dimensions are being covered. Must strive for sustainable use of forest resources at comprehensive level.

Doug Enyart – Review existing laws and regulations in the state (and federal) from a prospective of limiting and how much of our work is already done for us (ie., laws on water quality).

Richard Stricklin asked if we need someone to address this issue who that can interpret the law? John agreed to find somebody if needed.

Bill McGuire – Understory issue – harvest of small diameter material should not lead to elimination of understory which is beneficial to wildlife.

Ken Midkiff – Different types of soils and topography in Missouri. What works in Ozarks may not work in north Missouri. Special BMPs for steep slopes and rocky soils, different BMPs for different soils. Can’t develop one set for entire state. Need to have ecosystem-based BMPs.

Randy Miles – Landscape position, slope and aspect are all integrated with soils. Integrate landscape factors (physical aspects).

Sam Orr – BMPs should be written so they are implementable at the landowner level. Readability, practical guidelines.

Randy Jensen – There are lots of wildlife issues. Over utilization of large diameter trees, standing or down dead trees. No good understanding of the suite of species that use this downed dead wood – some species are rare and endangered. Also, what would be the effect on carbon?

David Haenke – Concern is general – the practices would not result in the degradation of healthy native forests or diminish acreage (ie., – land conversions). Environmental services need to be considered.

Wally Brumfield – Potential of monoculture of introduced non-native species.

Kurt Homeyer – How do we see this implemented on the ground – private land?

Jeff Lamb – Aesthetics and tourism impacts. People come to look at the forest and they don't want to see large impacts. Social implications.

Doug Wallace – Short circuiting of nutrient cycling and impacts it can have on a host of things.

Jason Hubbard – 1) Define to what extent we decide to use MN BMPs as a template. 2) Soil differences and variability. 3) Water regimes and sustainability – quality, quantity, and timing. 4) Soils and topography and active forces – might be worthwhile to split up. 5) Impact on healthy forests.

Dennis Meinert – Regional diversity; loss of nutrient sink/groundcover. From ELT prospective, how do we get and use good soil information? Site specific soil information.

John Warden - Different landscapes, soils.

Terry Thompson – Potential detrimental effects on (natural) communities.

Doug Wallace – Necessary incentives for adoption.

Mike Smith – Special opportunities – such as last year's ice storm. Created lots of biomass. Also sensitive area protection. Also cumulative impacts from neighboring harvests of biomass.

Lynn Barnickol – Studies done that talked about 6% of non-point source, of that 90% is related to road and landings. Need to target road construction and maintenance issues. Might work these BMPs into cost share opportunities to private landowners.

Mike Hoffmann – Some of these things may be beyond the scope of this group. Must be useable and affordable. Need incentives and education.

John Tuttle – Riparian zones should be looked at differently. Does not want biomass harvesting to lead to high-grading the forest; should protect crop trees, etc.

Gene Garrett – Theme repeated is that one size does not fit everything. There is much variation relative to site. Keep in mind that whatever we talk about, one BMP is not uniformly applied across the state.

Peter Becker – 1) Must be compatible; low-intensive harvesting. 2) Existing harvesting guidelines – acceptable rates of removal 3) Mechanism and decision making? Will the technical committee decide on a majority vote?

Sam Orr – BMPs already existing for non point source reasons, need to start with some of those as a basis. Compliment existing BMPs.

Gene Garrett – All practices will not meet the needs of individual sites. Not uniform BMP practices.

Wally Brumfield – 1) There are now more landowners with smaller tracts. Also there are lots of absentee landowners. Most would do what's right if they knew. They need the information to

make smart decisions. 2) How much would have to be removed to make it worth a buyer's time? What is economic breakpoint for harvester? Worthwhile?

Lynn Barnickol – Education for industry and owners.

Jason Hubbard – Not one size fits all. There are three distinct hydrologic regimes in the state. Are we after one BMP? John noted that there is no way we can do one BMP for the whole state, but they will need to be broken up based on ecological systems.

Bill McGuire – BMPs need to be flexible to allow for natural community restoration. Also, need to retain the ability to do complete removal of invasive species.

Sam Orr – Be flexible to changes in technology and equipment.

John Fleming – Let a tree grow to its highest potential use.

David Haenke – Management prescription to ensure healthy forest.

Additional Questions:

Ken Midkiff – Will BMPs be mandatory? John noted that on private land they will be suggested, need some incentives.

Richard Stricklin – Missouri is not ready for regulation. Perhaps attach it to what we can.

David Haenke – Asked about decision making process. John said comment period will allow for comments; technical committee will make changes. Bill noted that we could have a final meeting between stakeholder group and technical committee.

Issues and Breakout Groups - Bill then divided the stakeholders into smaller groups (four groups). He asked the groups to identify issues and important points/primary impacts to consider. Note whether you think this is a high priority, mid, low, and what parties are involved in the issue. Need a moderator and recorder.

Group 1 – Mike Hoffmann, presenter

- Useable, understandable “layman’s” language (high priority)
 - Won’t be implemented if not understood
 - Applies to landowner & logger/operator
 - Producers / processors must also understand.
 - Need to tell them what to do, not necessarily the “why” (too technical for most)
- Monitoring/Enforcement
 - Who verifies?
 - Reference existing laws/regulations (Clean Water Act, etc). Make sure they are reflected in BMPs (low priority)
- Site Specific
 - Ecoregions as basic unit to define site
 - Step down to specific site-soils
 - Riparian zones treated uniformly in all ecoregions.
 - Impacts to all (landowners, operators, industry, forester)

- Habitat - Wildlife
 - Must be environmental sensitive...consider natural communities, Threatened and Endangered, understory/R & I, dead downed woody
 - Focus on what is left.
- Implementation on private land
 - Impacts landowners
 - Focus on what is left
- Other issues
 - Consider land attributes, aesthetics, recreation, ecosystem services, carbon sequestration and trading (could be a big issue in future).
 - Focus on greatest impact for least input. Certain practices that give you the biggest gain.

Group 2 – Sam Orr, presenter

- Tie recommended biomass removal levels to site productivity (high priority)
- Stakeholders will be landowners present & future, utilizing industry
- Require that BMPs be implemented in order for any government assistance to be provided to either landowners or industry (high priority). Stakeholders are taxpayers, landowners, industry, outdoor recreationists, neighbors.
- Keep guidelines simple so landowners and logger can understand and implement readily (high priority). Stakeholders are landowners, loggers, regulators, consulting foresters.
- Consider utilizing major land resource area divisions in developing BMPs (high)
- Include visual management guidelines in BMP package (medium). Stakeholders will be landowners, tourists, Chamber of Commerce, tourism businesses, realtors, general public.
- Reference existing BMPs for water quality /erosion control in biomass harvesting BMPs (high) everyone.
- Dissemination of general information on BMPs must be conducted in a way that leads to successful implementation. Will be difficult.
- BMPs should deal with issues of sustainability, not with technological or economical issues.
- Need to look at incentives as part of the implementation process (high). Landowners, government industry
- Recommend a 2/3 majority vote be use in Technical Committee decision process (high)
- Part of intro that any harvest be done within the context of an overall resource management plan developed by a forester.
- Include a harvest plan

Group 3 – Doug Enyart, presenter

- Need a Mission Statement – maintain, promote, and enhance healthy native forests in a sustainable manner.
- Set maximum removal standards of vegetation with respect to nutrient cycling (woody debris, ground cover)
- Soil/site specific.
- BMP document can have different sections and levels of applicability, language, but ensure a brief east to understand set of minimum standards for the logger.
- Discourage high grading.

Group 4 – John Fleming, presenter

- Plantation farming component – is there a viable monocrop?
- Steer away from conversion of native habitat.
- Nutrient biogeochemical cycling.
- Outreach and education
- Sources of funding
- Stakeholders concern:
 - Landowners
 - Industry
 - Federal & state agencies
 - Private organizations
- Understory – wildlife
 - Maintain species diversity, ecosystem health.
- Utilize an ecological classification system. Need to define a useable system.
- Is there a need for a “reserve” system (a “leave” on biomass, basal area)
- Maintain a diverse “gene pod” (gets at post-harvest management issues) Stakeholders are landowners, industry, state and federal agencies, wildlife NGOs.
- Effects on forest communities:
 - Unique biological communities
 - Protection
 - Buffers
 - Multi-trophic levels.
 - Keystone species
 - Bio-indicators
 - Riparian Zones
 - Endangered species
- Conserve and protect important biological communities. Stakeholders: private land owners, state & federal agencies, wildlife NGOs, industry – accessibility issues.
- Realize potential of rare events (climate, ice, tornado, insect, disease, drought, etc.)
- Cumulative effects
 - Landscape alternation of harvest effects
 - Influence of neighboring project
 - Landscape fragmentation
 - Land value
- BMPs that address distinct events (High)
- Stakeholders: landowners, state and federal agencies, NGOs, industry, fire department, Emergency Management, county government, politicians
- Landscape physiographic heterogeneity
 - Inability of the landscape
 - Three distinct hydrologic regimes in Missouri
- Validating existing BMPs
- Harvest effects on water
 - Quantity, quality, timing
- Harvest effects to hydroclimatic regime (High)
 - Water quality
 - Effects on biota
 - Harvest altering climate
- Validating new BMPs (stakeholders landowners, state & federal, industry, water municipalities, tourism, recreation, and agriculture)

- Let trees grow to highest potential (short vs long term gains)
- Economics
 - Should there be tax incentives?
 - Education
- Sustainability (High). Stakeholders, industry, wildlife NGOs, agencies, consumers
- Three hydrological regimes concept
 - Dichotomous key type approach?
 - Based on location in the state, north of Missouri River is silt glacial deposit region and silt loam deposit region; south of river is karst region. All three are tied to ecological communities.

Additional Thoughts/Discussion:

How do we write BMPs for salvage? Need to address.

Bill – incentives – DNR has secured funding for SALT grants – water quality grants allocate dollars at the watershed level for application of conservation practices. Includes funds for incentives for landowners. Two practices recently added for forestry: trails and landings, payment for BMP plan (EQIP through NRCS). Also opportunity to develop practices that don't show up on other cost share, can build them in.

Think and consider another meeting of this group, probably in April or May, to meet with the Technical Committee to go through BMPs and descriptions to make sure everyone is satisfied with how document will appear. Agreed. Sam Orr – send out in sections to review as things are developed (not all at once). Will be posted on web.

Thanks to everyone!

APPENDIX

LIST OF ATTENDANTS NAME - ORGANIZATION

First	Last	Business	Address	City, State, Zip
Lisa	Allen	Missouri Department of Conservation	PO Box 180	Jefferson City, MO 65102
Francisco	Augilar	University of Mo. - Columbia	203 L ABNR Bldg	Columbia, MO 65211
Lynn	Barnickol	Missouri Department of Conservation	PO Box 180	Jefferson City, MO 65102
Jennifer	Battson	Missouri Department of Conservation Eastern Ozarks Forestry Council /	PO Box 180	Jefferson City, MO 65102
Dr. Peter	Becker	Landowner	PO Box 128	Bunker, MO 63629
Brian	Brookshire	Missouri Forest Products Association	611 E. Capitol Ste 1	Jefferson City, MO 65101
Wallace	Brumfield	Tree Farm	6516 Covington Oak	Cedar Hill, MO 63016
Hank	Dorst		17918 Rocky Top Road	Elk Creek, MO 65464
Katie	Dorst		17918 Rocky Top Road	Elk Creek, MO 65464
John	Dwyer	University of Mo. - Columbia		
Doug	Enyart	Clearwater Forestry Consultants	Po Box 176	Piedmont, MO 63957
John	Fleming	Missouri Department of Conservation	701 James McCarthy Dr.	St Joseph, MO 64507
Gene	Garrett	University of Mo. - Columbia		
David	Haenke	Alford Forest, Inc.	HC 3 Box 508-1	
Mike	Hoffmann	Missouri Department of Conservation	PO Box 180	Jefferson City, MO 65102
Kurt	Homeyer	The Nature Conservancy	PO Box 960	Van Buren, MO 63965
Jason	Hubbart	University of Mo. - Columbia	203 Q ABNR Bldg	Columbia, MO 65211
Randy	Jensen	Missouri Department of Conservation		
Bill	Kurtz	University of Mo. - Columbia	300 Devine Court	Columbia, MO 65203
Jeff	Lamb	Big Springs RC&D	PO Box 747	Van Buren, MO 63965
David	Massengale	US Forest Service	PO Box 460	Salem, MO 65560
Bill	McGuire	Missouri Department of Conservation	PO Box 180	Jefferson City, MO 65102
Dennis	Meinert	Missouri Department of Natural Resources	835 Gerling Lane	New Haven, MO 63068
Ken	Midkiff	Sierra Club	1007 N. College	Columbia, MO 65203
Randy	Miles	University of Mo. - Columbia	302 ABNR Bldg	Columbia, MO 65211
Sam	Orr	Missouri Consulting Foresters Association	1315 Dixon Drive	Jefferson City, MO 65101
Jim	Scheff	Missouri Forest Alliance		

Mike	Smith	Missouri Department of Conservation	PO Box 180	Jefferson City, MO 65102
Kelly	Smith	Missouri Farm Bureau Top of the Ozarks		
Richard	Strickland	RC&D	8266 Co Rd 3940	Mountain View, MO 65548
Terry	Thompson	Missouri Department of Conservation	HCR 1 Box 177K	Eminence, MO 65466
Bill	Turner	Missouri Department of Conservation		
John	Tuttle	Missouri Department of Conservation	PO Box 180	Jefferson City, MO 65102
Doug	Wallace	Natural Resource Conservation Service		